

A NEW *ELACHIPTERA* FROM SALT MARSHES, WITH  
REDESCRIPTION OF *E. PENITA* AND PARTIALLY  
REVISED KEY TO NEARCTIC *ELACHIPTERA*  
(DIPTERA: CHLOROPIDAE)

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*Abstract.*—*Elachiptera salinaria*, new species, is described from adults taken in salt marshes in eastern states from Massachusetts to Florida and distinguished from *E. penita*, a similar species that does not occur in salt marshes. A lectotype is designated for *E. penita*, and a partially revised key to Nearctic *Elachiptera* is presented.

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The genus *Elachiptera* Macquart is represented in America north of Mexico by 18 species (Sabrosky, 1965). Sabrosky's (1948) synopsis of the Nearctic species included descriptions of ten new species and a key; he indicated that the larvae feed on decaying plant material or are secondary invaders in stems of grasses. Sabrosky (1935) also reported that adults of two species are known to overwinter. In North America the genus is widespread, and adults are commonly taken in general collecting and in some surveys, especially for monocots.

During the past decade we have accumulated numerous adults of a species from eastern salt marshes from Massachusetts to Florida. These specimens run to *E. penita* (Adams) in Sabrosky's (1948) key. Examination of syntypes of *E. penita* indicated that the species from salt marshes is new. In this paper we redescribe *E. penita* and designate a lectotype, describe *E. salinaria* new species, the first of its genus known to occur in salt marshes, and revise the appropriate couplets in Sabrosky's (1948) key.

*Elachiptera penita* (Adams)

Figs. 3, 9

*Crassiseta penita* Adams, 1908, J. N.Y. Entomol. Soc. 16: 152 (Wisconsin).

The species was described from two "males" from Wisconsin. The two syntypes, now in the C. F. Adams Collection in the University of Arkansas, show that the species was misinterpreted in Sabrosky's (1948) revision of the genus because it was not known to him at that time. It is distinguished by having the arista broad throughout its length (Fig. 3), ocellar tubercle microtomentose, and scutum chiefly shining, microtomentose only narrowly on sides and before the scutellum. *Elachiptera penita* of the 1948 revision is the new species described herein.

The male specimen bearing Adams' handwritten label lacks the hind legs, one middle leg, most of the abdomen, and one wing, but the antennae are complete and show the characteristic broad and flat arista. The second specimen, a female, is complete

except for lacking both arista. Inasmuch as the arista are the particularly unique feature of this species, the first specimen is selected as the lectotype, even though it is somewhat incomplete. The second specimen is labeled as paralectotype. In their present condition, the two specimens must be studied together to realize the complete characterization for the species.

The only other specimens known to us are six ♀, Washburn Co., Wis., (R. H. Jones); ♂, Montcalm Co., Mich., May 15, 1954 (R. R. Dreisbach); ♀, Wexford Co., Mich., May 14, 1955 (R. R. Dreisbach); ♂, 6 miles east of Kent, Ohio, May 16, 1967 (T. Krystowski); and ♀, 10.5 miles southeast of Kent, Ohio, May 24, 1967 (T. Krystowski). The last specimen is in the Department of Biological Sciences, Kent State University, the others are in the National Museum of Natural History, Washington, D.C.

The species may be confused with the common *E. nigriceps* (Loew) because of the large frontal triangle and shining scutum, but *penita* has a microtomentose ocellar tubercle and incassate hind femora. The rather large hind femora suggest *E. formosa* (Loew) but the latter has gray mesoscutal stripes, as does *E. vittata* Sabrosky, which is also a species with broad arista and gray microtomentose ocellar tubercle.

Adams' description is rather brief and generalized; we supply a more detailed description:

Frons nearly square, length barely greater than width; frontal triangle large, approximately as figured for *E. angustifrons* (Sabrosky, 1948: fig. 14) but the frons slightly wider, surface of triangle smooth and polished except for marginal groove on each side; ocellar tubercle gray microtomentose; face and cheeks blackish; palpi yellow; antennae yellow, arista black, the latter broad and flat nearly to apex (cf. Sabrosky 1948, Fig. 7).

Thorax polished black except for relatively inconspicuous thin gray microtomentum as a narrow prescutellar band, scutellum, postalar declivity, metapleural areas

and postscutellum, notopleura, and upper margins of meso- and pteropleura, the mesopleural band barely attaining the humeri, the latter chiefly polished; scutum scabrous on the usual three dorsocentral and acrostical lines and the prescutellar slope; scutum slightly longer than broad, with numerous long hairs. Bristles very long: 1 humeral, 1 + 1 notopleural, 1 postalar, 1 posterior dorsocentral. Scutellum short and broad, length to breadth as 19:25, roughened, dull, disk flat with a number of long hairs, apex blunt; cruciate apical scutellar bristles on well separated small tubercles, one pair of subapical marginals arising on small tubercles, a second pair of marginals close to and only slightly anterior to the subapicals and slightly shorter, but not on tubercles; apical bristles separated at bases by 1.3 times the distance from each to a subapical, the subapicals arising at 0.65 times the length of scutellum (i.e., closer to the apicals than to base of scutellum); prosternum black.

Abdomen with first segment elongate so that segments 1 and 2 are subequal, these two fused and occupying nearly one half the length of abdomen, but yellow and weakly sclerotized on broad mesal area, remainder of abdominal dorsum shining brown.

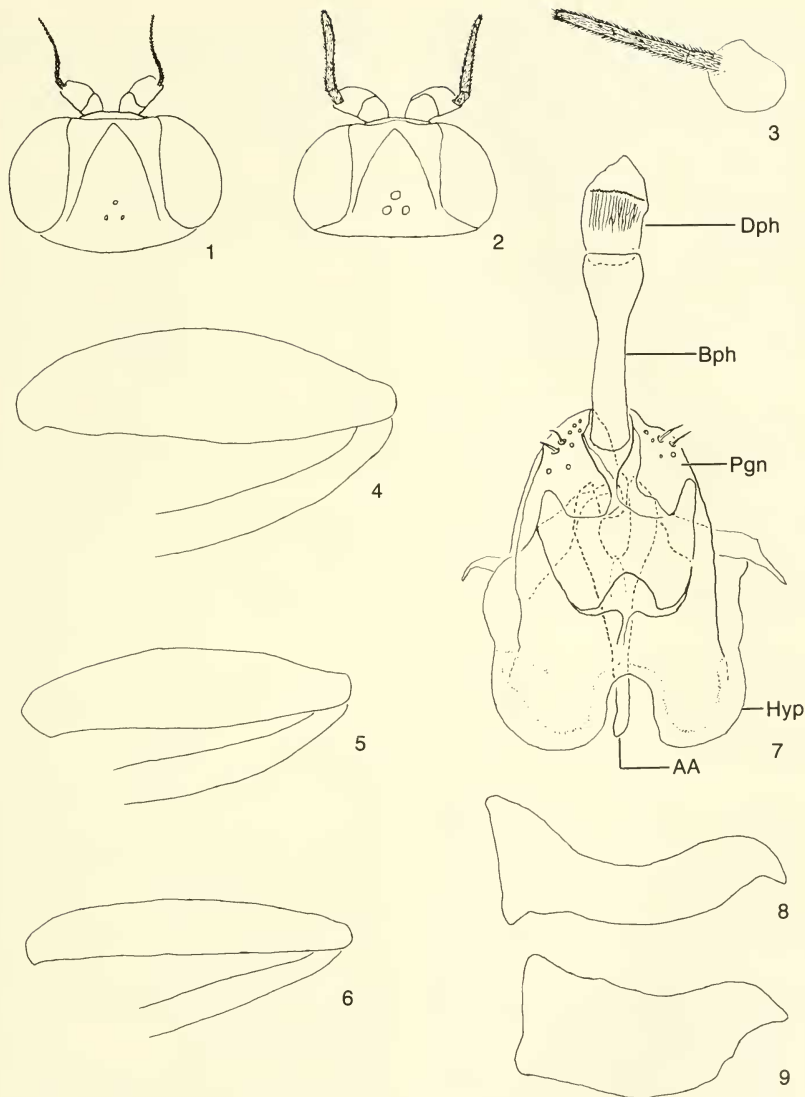
Legs predominantly bright yellow, the fore tibia, fore tarsus, and hind tibia brown; hind femur slightly enlarged and elongate, its diameter 1.67–2.12 times the diameter of hind tibia.

Wing veins pale yellow, venation of normal *Elachiptera* type, 2nd costal sector: 3rd sector as 13:10, veins 3 and 4 diverging slightly on distal third, crossvein r-m beyond middle of discal cell.

*Elachiptera salinaria* Sabrosky and Valley,  
NEW SPECIES  
Figs. 1, 7, 8

*Elachiptera decipiens* Loew of Weiss, 1924:  
257 (N.J.).

*Elachiptera penita* (Adams) of Sabrosky  
1948: 380 (Mass.).



Figs. 1-9. *Elachiptera* spp. 1, Head of *salinaria*. 2, Head of *formosa*. 3, Third antennal segment and arista of *penita*. 4-6, Hind femora. 4, Male *formosa*. 5, Female *formosa*. 6, Male *vittata*. 7, Male genital complex of *salinaria* (AA, aedeagal apodeme; Bph, basiphallus; Dph, distiphallus; Hyp, hyandrium; Pgn, postgonite). 8, 9, Surstyli in left lateral view. 8, Surstylus of *salinaria*. 9, Same of *penita*.

Male and female.—*Head*: Frons orange-yellow to red, sometimes darkening posteriorly, approximately as long as broad; frontal triangle shining, polished, extending nearly to anterior margin of frons, with gray microtomentum along sides and on ocellar tubercle; occiput (Fig. 1) convexly developed, appearing well rounded when viewed at right angle to frons; occiput, cheeks, and vertex black, microtomentose; face black, yellow to orange between antennal bases and below black band; palpi yellow; antennae orange-yellow, third segment slightly infuscated at insertion of the black, plumose, slender and attenuated arista.

*Thorax*: Scutum black, microtomentose along perimeter, in dorsocentral areas, and on posterior fourth; humerus (postpronotal lobe) and notopleuron microtomentose; pleural sclerites largely shiny, with small amount of microtomentum on upper border of mesopleuron (anepisternum), on upper half of pteropleuron (anepimeron), and on laterotergite and hypopleuron (meron). Scutellum black, microtomentose, 2 pairs of marginal bristles on short tubercles, whitish hairs on rugulose disc. Legs yellow to dark orange-yellow to nearly black, diameter of hind femur 1.71–2.0 times diameter of hind tibia. Wings hyaline, 2.4–2.8 mm long, 0.8–1.0 mm wide.

*Abdomen*: Microtomentose; straw-colored basally, apical segments brown, darker along posterior margins. Male genitalia (Fig. 7): cerci rounded at apex, more or less triangular, separated by a V-shaped cleft; hypandrium closed, with deep, U-shaped notch anteromesally; postgonites broad, aedeagal apodeme with ventral projection that appears fused to hypandrium; aedeagus long, slender, basiphallus lightly sclerotized, expanding apically; surstyli (Fig. 8) more elongate and slender than in *penita*, curved and tapering to a point.

*Type Material*.—Holotype ♂, allotype, and 12 paratypes (6 ♂, 6 ♀), Oceanville, N.J., Oct. 3, 1949 (R. T. Mitchell), common in salt marshes. In the U.S. National Museum of

Natural History, Washington, D.C. Other paratypes (in Washington unless otherwise noted): Mass.: ♀, Falmouth Heights, Aug. 13, 1924 [New York]; ♂, ♀, Eastham, Gov. Prence Road, May 25, 1969 (K. R. Valley), salt meadow [Ithaca]; 2 ♂, 1 ♀, Cape Cod, Great Sippewissett salt marsh, July 9, 1974 (Susan Vince), on low marsh, dominant *Spartina alterniflora*. N.Y.: ♀, Oak Id., July (A. L. Melander Collection). N.J.: 2 ♂, Oceanville, Oct. 4, 1949 (R. T. Mitchell); ♀, Ocean City, Sept. 1, 1949 (R. T. Mitchell), salt marsh; 8 ♂, 1 ♀, Ocean Co., Tuckerton, July 1, 1975 (M. J. Raupp) [New Brunswick]; 2 ♂, 2 ♀, Ocean Co., 2 mi E of Manahawkin, Apr. 1, 1974 (R. F. Denno), on *Spartina alterniflora*; ♂, Morgan, Aug. 7 (Weiss, West) [New York]. Del.: ♂, Kent Co., Route 113 at St. Jones River, July 10, 1982 (K. R. Valley), salt marsh [Harrisburg]. N.C.: ♂, ♀, Beaufort, Sept. 15, 1959 (L. V. Davis); ♂, 2 ♀, Pea Id. National Wildlife Refuge, Oct. 15, 1982 (B. A. Foote) [Kent]; 2 ♂, 2 ♀, Onslow Co., Ashe Id., June 4, 1975 (J. C. Dukes), on *Spartina alterniflora*; 2 ♂, 1 ♀, Carteret Co., Bogue Id., Oct. 17, 1974 (G. C. Steyskal); ♀, Southport, June 5, 1949 (C. W. Sabrosky). Ga.: Sapelo Id., on *Spartina*: 6 ♀, 7 ♂, June 1963 (H. Kale); ♂, Mar. 21, 1964 (T. Marples); 2 ♂, May 1963 (E. P. Odum); ♂, May 17, 1963 (E. P. Odum); and ♂, 2 ♀, Sept. 10, 1963 (E. P. Odum) [Athens]; ♂, Glynn Co., Route 50, 0.2 mi W of Jekyll Id., Mar. 29, 1969 (K. R. Valley) [Ithaca]. Fla.: ♂, Levy Co., Cedar Key (Lois Wood), salt marsh [Gainesville]; 2 ♂, same locality, Apr. 29, 1984 (A. G. Wheeler, Jr.), sweeping halophytes [Harrisburg]; 3 ♂, 1 ♀, Wakulla Co., Oyster Bay, July 12, 1981 (C. D. Little), collected as larvae in decaying *Spartina alterniflora* [Tallahassee].

*Remarks*.—Specimens from North Carolina have infuscated femora and tibiae, especially on the hind legs, and for a time it appeared that there were two species or subspecies, one yellow-legged and northern, the other blackish-legged and southern. However, variation and overlapping of the two

forms, and absence of any observed differences in the male genitalia or other characteristics have led us to consider the series before us to represent a single species. Florida specimens have a more extensively microtomentose scutum, but otherwise they too seem conspicuous.

The specific name is an adjective derived from the Latin *salinus*, salty, referring to the salt marsh habitat of the species.

The location of type material has been indicated in the above list by the name of a city in brackets. Following is a key to those localities. The names of the persons to whom we are indebted for the loan of material are in parentheses. Athens: Department of Zoology, University of Georgia, Athens, Ga. (E. P. Odum). Gainesville: Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture & Consumer Services, Gainesville, Fla. (H. V. Weems, Jr.). Harrisburg: Pennsylvania Department of Agriculture, Harrisburg, Pa. Ithaca: Department of Entomology, Cornell University, Ithaca, N.Y. Kent: Department of Biological Sciences, Kent State University, Kent, Ohio (B. A. Foote). New Brunswick: Department of Entomology & Economic Zoology, Rutgers University, New Brunswick, N.J. New York: American Museum of Natural History, New York, N.Y. (C. H. Curran, D. Grimaldi, R. T. Schuh). Tallahassee: Department of Biology, Florida State University, Tallahassee, Fla. (C. D. Little). Washington: National Museum of Natural History, Washington, D.C.

Comments.—Larval feeding habits of *E. salinaria* appear similar to those reported for other members of the genus. Recent studies by C. D. Little (1981), Florida State University, indicate this species feeds on decaying shoots of salt water cord grass, *Spartina alterniflora* Loisel. In addition, Strong et al. (1984) listed *salinaria* (as *Elachiptera* sp.) as a saprovores associated with *S. alterniflora*.

The key in Sabrosky's revision (1948) is

still serviceable in general, and we revise only part of it. A few notes may be made.

1. *Elachiptera aliena* Becker has since been referred to *Oscinisoma* Becker.

2. *E. punctulata* Becker is now known to be Afrotropical.

3. Couplet 15, second choice: read "or with two or three stripes of gray microtomentum." The median or acrostical stripe is always narrower than the dorsocentral stripes and sometimes is absent. The term microtomentum, here and elsewhere in the key and descriptions, is used instead of pollen or pollinosity, or pruinescence (Sabrosky, 1983).

4. *E. pechumani*: After the description of *pechumani*, G. E. Shewell subsequently called to Sabrosky's attention another characteristic of *pechumani* i.e., a spot of gray microtomentum in the lower posterior corner of the mesopleuron (anepisternum). This is not found in *nigriceps* or *angustistylum*, nor in the previously keyed *angustifrons*. Although seeming to be a trifle, it is apparently consistent.

5. Couplet 18, second choice: The black markings are on the mid and hind femora, not tibiae as inadvertently stated.

6. Couplet 20: The "strongly incrassate" hind femur of *E. formosa* is more striking in males than in females.

REVISED KEY TO COUPLETS 20-25 OF SABROSKY (1948)

- 20. Occiput convexly developed, the back of head well rounded (Fig. 1), as viewed from above at right angle to frons; salt marsh species, Massachusetts to Florida ..... *Elachiptera salinaria*, n. sp.
- Occiput not convexly developed, back of head straight or barely rounded (Fig. 2) as viewed from above at right angle to frons ..... 21
- 21. Disk of scutum not vittate, with only a narrow prescutellar crossband of gray microtomentum plus gray lateral areas ..... 22
- Disk of scutum distinctly vittate, with stripes of gray microtomentum in dorsocentral positions and a narrower but usually evident median stripe in addition to gray lateral areas that extend from humeral to postalar calli . . . 23
- 22. Arista broad and flat (Fig. 3); femora deep

- yellow to orange yellow; Wisconsin, Michigan, Ohio ..... *E. penita* (Adams)
- Arista only slightly thickened, short pubescent, not flattened; all femora brown to black, at least in part, especially, hind femur; Mountain States, Idaho to Montana, s. to Nevada and Colorado ..... *E. knowltoni* Sabrosky
23. Arista ensiform, broad and flat nearly to apex ..... 24
- Arista slender, attenuated, tapering from base to apex, if slightly broadened (*californica*) it is acuminate ..... 25
24. Hind femur incrassate, its diameter midway 3 (males) (Fig. 4) and 2 (females) (Fig. 5) times diameter of hind tibia; cheek relatively narrow, in profile only 0.12 times height of eye and barely wider than arista . *E. formosa* (Loew)
- Hind femur slender, not at all incrassate, at most 1.67 times diameter of hind tibia in both sexes (Fig. 6); cheek obviously wider in profile 0.21–0.22 times height of eye and 2–3 times breadth of arista ..... *E. vittata* Sabrosky
25. Ocellar tubercle polished black; arista moderately broad at base, acuminate distally ..... *E. californica* Sabrosky
- Ocellar tubercle dull, gray microtomentose; arista slender ..... 26
26. Frontal triangle black, cheek and posterior portion of frons predominantly brown to blackish, head dark ..... *E. decipiens* (Loew)
- Frontal triangle reddish to brown, and frons, face, and cheek bright yellow, head bright ..... *E. flaviceps* Sabrosky

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